

Serial No. 09/830,408
Reply Dated: July 20, 2005
Reply to Office Action Mailed March 22, 2005
Attorney Docket No. 3036/49866

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Cancelled)

Claim 2. (Currently Amended) A method of power control in a communication system capable of transmitting, from a transmitter to a receiver, a frame having a plurality of time intervals, wherein power control is effected on the individual time intervals based upon information passed from the receiver to the transmitter, and the receiver seeks to maintain an average signal to noise ratio across the frame; said method comprising:

A method according to claim 1, wherein the method comprises:

i. for a first time interval of a frame, setting [[the]] an initial transmission power level; and

ii. for each subsequent time interval of the frame, [[;]]

measuring [[the]] a received signal to noise ratio over subsequent time intervals;

determining [[the]] a cumulative [[SNR]] signal to noise ratio value over [[the]] a received time interval of the frame;

determining the number of time intervals remaining in the frame; and,

adjusting the transmission power level in response to signalling from the receiver in respect of a further subsequent time interval, based upon said cumulative [[SNR]] signal to noise ratio value and the number of time intervals remaining in the frame, such that ~~the required a target~~ average signal to noise ratio is substantially achieved.

Claim 3. (Currently Amended) [[A]] The method according to Claim 2, wherein the transmission power level for each subsequent time interview [[slot]] is set by:

calculating a predicted signal to noise ratio γ_p using the sum of the measured power levels, the predetermined target average [[SN]] signal to noise ratio γ_d , and the number of remaining time [[slots]] intervals.

Claim 4. (Currently Amended) [[A]] The method according to Claim 2, wherein the ~~required predicted~~ signal to noise ~~ration ratio~~ γ_p is calculated based upon the assumption that [[a]] ~~the target, of the~~ average signal to noise ratio [[,]] γ_d [[,]] across the frame, will be met if the calculated predicted signal to noise ratio γ_p is maintained throughout the remainder of the frame, thereby keeping the average signal to noise ratio γ_d substantially constant over the frame.

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Claim 5. (Currently Amended) [[A]] The method according to Claim [[1,]] 2, wherein the time interval is a time slot.

Claim 6. (Currently Amended) [[A]] The method according to Claim [[1,]] 2, wherein the communication system is a spread spectrum communications system.

Claim 7. (Currently Amended) [[A]] The method according to Claim 6, wherein the spread spectrum communication system is a CDMA communications system.

Claim 8. (Currently Amended) [[A]] The method according to Claim 4, wherein the step of adjusting the power level ~~setting~~ step achieves a signal to noise ratio, γ_p , which is given by the formula:

$$\gamma_p = \frac{N\gamma_d - \sum_{i=0}^{j-1} \gamma_j}{N - j}$$

wherein γ_i is the [[S/N]] signal to noise ratio received at the base station in the i th interval; $\sum_{i=0}^{j-1} \gamma_j$, is the sum of [[S/N]] signal to noise ratios received corresponding to previous time intervals; and $N\gamma_d$ is [[the]] desired total [[S/N]] signal to noise ratio sum over the frame.

Claim 9. (Currently Amended) [[A]] The method according to Claim 6, wherein the duration of a frame corresponds to a burst ~~eomprises~~ comprising a plurality of consecutive CDMA frames.

Claim 10. (Currently Amended) [[A]] The method according to Claim 6, wherein the duration of a frame corresponds to the duration of a CDMA frame.

Claim 11. (Currently Amended) A transmitter for a communication system operable to transmit in time frames having a plurality of time intervals, the transmitter comprising a power controller operable to:

i. for a first time interval of a frame, set [[the]] an initial transmission power level; and

ii. for each subsequent time interval of the frame, [[;]] measure [[the]] a received signal to noise ratio over subsequent time intervals;

determine [[the]] a cumulative [[SNR]] signal to noise ratio value over [[the]] a received time interval of the frame;

determine the number of time intervals remaining in the frame; and

adjust the transmission power level in response to signalling from the receiver in respect of a further subsequent time interval, based upon said cumulative [[SNR]] signal to noise ratio value and the number of time intervals

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remaining in the frame, such that ~~the required a target~~ average signal to noise ratio is substantially achieved.